

HAWAII ADMINISTRATIVE RULES

TITLE 12

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

SUBTITLE 8

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

PART 2

GENERAL INDUSTRY STANDARDS

CHAPTER 80.1

MACHINERY AND MACHINE GUARDING

§12-80.1-1                Farm field and farmstead equipment  
§12-80.1-2                Incorporation of federal standard

Historical note: Chapter 12-80.1 is based substantially upon chapter 12-80. [Eff 12/6/82; am 5/28/83; am 8/16/84; am 8/15/87; am and comp 3/22/91; am 8/10/95; R 12/29/01]

**§12-80.1-1 Farm field and farmstead equipment.** (a) This section provides for the protection of employees from the hazards associated with moving machinery parts of farm field and farmstead equipment used in any agricultural operation.

(b) This section applies to all farm field and farmstead equipment, except that subsections (j) (k), (1)(2)(A), (n), (o), and (p)(2)(A) do not apply to equipment manufactured before October 25, 1982.

(c) At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment to which this section applies and with which the employer is or will be involved, including at least the following safe operating practices.

- (1) All guards shall be kept in place when the machine is in operation.
- (2) There shall be no riders on farm field equipment other than persons required for instruction or assistance in machine operation.
- (3) The operator shall stop the engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning, or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment.
- (4) Everyone shall be clear of machinery before starting the engine, engaging power, or operating the machine.
- (5) Electrical power shall be locked out before performing maintenance or service on farmstead equipment.

(d) Except as otherwise provided in this section, each employer shall protect employees from coming into contact with hazards created by moving machinery parts through the:

- (1) Installation and use of a guard or shield or guarding by location; or
- (2) Use of a guardrail or fence, whenever a guard or shield or guarding by location is infeasible.

(e) Where guards are used to provide the protection required by this section, they shall be designed and located to protect against inadvertent contact with the hazard being guarded.

- (1) Unless otherwise specified, each guard and its supports shall be capable of withstanding the force that a 250-pound individual, leaning on or falling against the guard, would exert upon that guard.
  - (2) Guards shall be free from burrs, sharp edges, and sharp corners, and shall be securely fastened to the equipment or building.
- (f)** A component is guarded by location during operation, maintenance, or servicing when, because of its location, no employee can inadvertently come in contact with the hazard during operation, maintenance, or servicing. Where the employer can show that any exposure to hazards results from employee contact which constitutes an isolated and unforeseeable event, the component shall also be considered guarded by location.
- (g)** Guardrails or fences shall be capable of protecting against employees inadvertently entering the hazardous area.
- (h)** Whenever a moving machinery part presents a hazard during servicing and maintenance, the engine shall be stopped, the power source disconnected, and all machine movement stopped before servicing or maintenance is performed, except where the employer can establish that:
- (1) The equipment must be running to be properly serviced or maintained;
  - (2) The equipment cannot be serviced or maintained while a guard or guards otherwise required by this chapter are in place; and
  - (3) The servicing or maintenance can be safely performed.
- (i)** Power take-off guarding for farm field equipment.
- (1) All power take-off shafts, including rear, mid- or side-mounted shafts, shall be guarded either by a master shield, as specified in paragraph (2) below or by other protective guarding.
  - (2) All tractors shall be equipped with an agricultural tractor master shield on the rear power take-off except where removal of the tractor master shield is permitted by paragraph (3) below. The master shield shall have sufficient strength to prevent permanent deformation of the shield when a 250-pound operator mounts or dismounts the tractor using the shield as a step.
  - (3) Power take-off driven equipment shall be guarded to protect against employee contact with positively driven rotating members of the power-drive system. Where power take-off driven equipment is of a design requiring removal of the tractor master shield, the equipment shall also include protection from that portion of the tractor power take-off shaft which protrudes from the tractor.
  - (4) Signs shall be placed at prominent locations on tractors and power take-off driven equipment specifying that power-drive system safety shields must be kept in place.
- (j)** Other power transmission components for farm field equipment.
- (1) The mesh or nip-points of all power driven gears, belts, chains, sheaves, pulleys, sprockets and idlers shall be guarded.
  - (2) All revolving shafts, including projections such as bolts, keys, or set screws, shall be guarded, except smooth shaft ends protruding less than one-half the outside diameter of the shaft and its locking means.
  - (3) Ground driven components shall be guarded in accordance with paragraphs (1) and (2) above if any employee may be exposed to them while the drives are in motion.
- (k)** Functional components for farm field equipment, such as snapping or husking rolls, straw spreaders and choppers, cutterbars, flail rotors, rotary beaters, mixing augers, feed rolls, conveyor augers, or rotary tillers, and similar units, which must be exposed for proper function, shall be guarded to the fullest extent which will not substantially interfere with normal functioning of the component.
- (l)** Access to moving parts of farm field equipment.
- (1) Guards, shields, and access doors shall be in place when the equipment is in operation.
  - (2) Where removal of a guard or access door will expose an employee to any component which continues to rotate after the power is disengaged, the employer shall provide, in the immediate area, a:
    - (A) Readily visible or audible warning of rotation; and

- (B) Safety sign warning the employee to:
  - (i) Look and listen for evidence of rotation; and
  - (ii) Not remove the guard or access door until all components have stopped.
- (m)** Power take-off guarding for farmstead equipment.
  - (1) All power take-off shafts, including rear, mid-, or side-mounted shafts, shall be guarded either by a master shield as provided in subsection (i)(2) above or other protective guarding.
  - (2) Power take-off driven equipment shall be guarded to protect against employee contact with positively driven rotating members of the power-drive system. Where power take-off driven equipment is of a design requiring removal of the tractor master shield, the equipment shall also include protection from that portion of the tractor power take-off shaft which protrudes from the tractor.
  - (3) Signs shall be placed at prominent locations on power take-off driven equipment specifying that power-drive system safety shields must be kept in place.
- (n)** Other power transmission components for farmstead equipment.
  - (1) The mesh or nip-points of all power driven gears, belts, chains, sheaves, pulleys, sprockets, and idlers shall be guarded.
  - (2) All revolving shafts, including projections such as bolts, keys, or set screws, shall be guarded, with the exception of:
    - (A) Smooth shafts and shaft ends (without any projecting bolts, keys, or set screws), revolving at less than 10 rpm, on feed handling equipment used on the top surface of materials in bulk storage facilities; and
    - (B) Smooth shaft ends protruding less than one-half the outside diameter of the shaft and its locking means.
- (o)** Functional components for farmstead equipment.
  - (1) Functional components, such as choppers, rotary beaters, mixing augers, feed rolls, conveyors, augers, grain spreaders, stirring augers, sweep augers, and feed augers, which must be exposed for proper function, shall be guarded to the fullest extent which will not substantially interfere with the normal functioning of the component.
  - (2) Sweep arm material gathering mechanisms on the top surface of materials within silo structures shall be guarded. The lower or leading edge of the guard shall be located no more than 12 inches above the material surface and no less than 6 inches in front of the leading edge of the rotating member of the gathering mechanism. The guard shall be parallel to, and extend the fullest practical length of, the material gathering mechanism.
  - (3) Exposed auger flighting on portable grain augers shall be guarded with either grating-type guards or solid-baffle style covers.
    - (A) The largest dimensions or openings in grating-type guards, through which materials are required to flow, shall be 4-3/4 inches. The area of each opening shall be no larger than 10 square inches. The opening shall be located no closer to the rotating flighting than 2-1/2 inches.
    - (B) Slotted openings in solid-baffle style covers shall be no wider than 1-1/2 inches, or closer than 3-1/2 inches to the exposed flighting.
- (p)** Access to moving parts of farmstead equipment.
  - (1) Guards, shields, and access doors shall be in place when the equipment is in operation.
  - (2) Where removal of a guard or access door will expose an employee to any component which continues to rotate after the power is disengaged, the employer shall provide, in the immediate area, a:
    - (A) Readily visible or audible warning of rotation; and
    - (B) Safety sign warning the employee to:
      - (i) Look and listen for evidence of rotation; and
      - (ii) Not remove the guard or access door until all components have stopped.
- (q)** Electrical disconnect means for farmstead equipment.
  - (1) Application of electrical power from a location not under the immediate and exclusive control of the employee or employees maintaining or servicing equipment shall be prevented by:

- (A) Providing an exclusive, positive locking means on the main switch which can be operated only by the employee or employees performing the maintenance or servicing; or
  - (B) In the case of material handling equipment located in a bulk storage structure, by physically locating on the equipment an electrical or mechanical means to disconnect the power.
- (2) All circuit protection devices, including those which are an integral part of a motor, shall be of the manual-reset type, except where:
- (A) The employer can establish that because of the nature of the operation, distances involved, and the amount of time normally spent by employees in the area of the affected equipment, use of the manual-reset device would be infeasible;
  - (B) There is an electrical disconnect switch available to the employee within 15 feet of the equipment upon which maintenance or service is being performed; and
  - (C) A sign is prominently posted near each hazardous component which warns the employee that unless the electrical disconnect switch is utilized, the motor could automatically reset while the employee is working on the hazardous component.
- [Eff 12/29/01] (Auth: HRS §396-4) (Imp: HRS §396-4)

**§12-80.1-2 Incorporation of federal standard.** Title 29, Code of Federal Regulations, Subpart C, entitled "Machinery and Machine Guarding" published by the Office of the Federal Register, National Archives and Records Administration, on June 27, 1974; and the amendments published on December 3, 1974; January 27, 1975; October 24, 1978; November 7, 1978; February 8, 1980; February 10, 1984; April 30, 1984; July 7, 1986; September 29, 1986; March 14, 1988; February 13, 1996; and March 7, 1996, are made a part of this chapter, except as provided in section 12-80.1-1. [Eff 12/29/01] (Auth: HRS §396-4) (Imp: HRS §396-4)